Feb. 2012
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Foreign Direct Investment and Income Inequality in China

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1. Introduction

China's rapid economic growth over the past three decades has been accompanied by increasing concern over the income disparities that have accompanied this growth. Income inequality may involve income gaps across regions, across urban vs. rural areas, across industries, across labor groups (i.e., skilled versus unskilled labor) and/or across firms with different ownership types. Since some of these types of inequality have been found to be persistent and growing in China, economists and policy-makers want to understand the influences that exacerbate or mitigate these patterns. Attention often is focused on international trade and foreign direct investment (FDI) as contributing influences since China is now the top exporting country and the top recipient of FDI worldwide.[1]

Although the linkages between trade and incomes have been examined extensively in the international trade and labor economics literature,[2] research on the linkages between FDI and incomes has tended to focus solely on identifying a foreign ownership wage premium. We

[1] China is the top exporting country in 2010 according to the World Trade Organization (WTO) trade statistics. It is also the top FDI recipient in 2010 when Hong Kong is included, and is second to the US otherwise according to the International Monetary Fund's (IMF's) Balance of Payments data.

[2] See Feenstra and Hanson (2003) for a survey of this literature.

propose a more thorough examination of FDI's effect on incomes and on income inequality in particular. Although most of the previous research on FDI and income inequality has been at the macroeconomic level, our firm-level data allows for much more detailed analysis of the various influences on income differentials paid by different types of firms operating in China. This allows us to make direct comparisons between foreign firms, foreign firms owned by overseas Chinese investors, state-owned firms and other domestic firms. Controlling for industry and province effects, we can compare average wages across firms to determine to what extent these wage differentials can be attributed to well-known determinants, such as differences in worker skills or capital-labor ratios, versus newer determinants such as a firm's size, exporter status, or ownership type.[3] Taking the predictions of the heterogeneous firms' models into account, our study is among the first to control for firms' exporter status in making comparisons between FDI firms and domestic-owned firms. Our preliminary results for two large industries in a major industrial region in China indicate that both the traditional determinants and the newer determinants matter for explaining intra-sectoral wage inequality.

2. Literature Review

Clark, Campino, Highfill and Rehman (2011) survey the broad literature on FDI effects, including its relationship to income inequality. They conclude that FDI generally leads to positive technological spillovers and economic growth, but also to increased income inequality. Seven of the nine studies summarized by Clark et. al. examined the FDI-income inequality relationship using cross-country panel data. Only two studies focused on FDI effects on inequality within a single country: Jensen and Rosas (2007) focus on Mexico and Bhandari (2006) on the US. The former is more relevant to our study since it focuses on a developing country.

[3] Here we use the term "newer" in reference to trade theory developments.

Jensen and Rosas (2007) examine income inequality within states in Mexico as capital flows were liberalized between 1990 and 2000. They compare states that received a lot of FDI with those that received little FDI since most US multinationals choose to locate close to six border routes between the two countries. Using an instrumental variable at the cross-state level, they find that states with lots of FDI had lower income inequality, measured by state-level Gini coefficients that include returns from labor and capital.

Not included in the survey by Clark et. al. (2011) are several studies that have examined income inequality in China, but their research questions have differed somewhat from those surveyed and from our study. Candelaria, Daly and Hale (2009) examine China's regional income inequality but they do not include FDI as a possible determinant. They document persistent and increasing regional income inequality in China over the past two decades, despite a decline in some institutional barriers, such as China's permanent registration system, and in informational barriers that might limit factor mobility within a country. They find that differences in labor quality, industry composition and geographical location explain some of China's inequality across provinces. However, even when labor is allowed to move more freely due to provincial reforms between 2001 and 2007, they find that interprovincial migration does not eliminate regional wage differences.

Greaney and Li (2012) examine the effects of FDI on China's wages and employment, but our level of analysis is industry-level rather than firm-level in that earlier paper. We find that industries that receive higher shares of their funding from state, collective or private domestic capital sources tend to pay less, and a higher share of collective capital also is associated with higher employment, after controlling for different sizes and capital-intensities across industries. Among the two capital inflows into China, overseas Chinese capital and FDI capital are

associated with higher pay when measured in log capital amounts. They are associated with fewer workers at the industry level when they are measured in capital shares.

There are many studies that have looked for a foreign ownership wage premium for countries other than China. Lipsey and Sjoholm (2001) find a foreign ownership premium of 12% for blue-collar workers and 22% for white-collar workers in Indonesian factories after controlling for region, industry, plant size, and worker characteristics. In fact, the opening sentence of their paper reads "It seems to be a universal rule that in every country, foreign-owned firms and plants pay higher wages, on average, than domestically owned ones." They point out that this holds true for developed countries as well as for developing countries. Heyman, Sjoholm and Tingvall (2007) examine this proposition using detailed matched employer-employee data from Sweden and find a smaller wage premium associated with foreign ownership than previous studies found. They find that foreign-owned firms do pay more than domestic-owned firms but the former do not pay more for identical workers. The higher wages paid in foreign firms can be explained by firm and worker characteristics.

Rather than looking for a foreign ownership wage premium, Zhao (2001) investigates FDI's effect on the skilled labor wage premium in China. He proposes an alternative hypothesis to the usual linkage through skill-bias technology. Labor market distortions in a developing and transition economy like China might force foreign investors to pay a wage premium to attract skilled labor away from the "privileged" state-owned enterprises, but unskilled labor is easy to attract. Therefore, Zhou proposes that FDI firms pay a larger skilled labor wage premium compared with state-owned enterprises (SOEs). He finds empirical support for his hypothesis using urban census data for six provinces from 1996. Wu (2001) reports the same skilled wage premium from FDI, but attributes it to better intellectual property rights protection of foreign-

invested enterprises rather than to labor market distortions. Hale and Long (2011) also find that FDI has direct and indirect effects on skilled labor. FDI firms pay more for skilled labor and the observed quality of that labor is higher than in private domestic firms. For indirect effects, they find that higher FDI in an industry drives up the skilled labor wages in private domestic firms and drives down the quality of skilled workers in SOEs. They find no direct or indirect effects of FDI on unskilled worker wages or quality. Our dataset does not allow us to directly observe skilled versus unskilled wages but we do examine the relationship between firms' average wages and workers' education levels, and how FDI might affect that relationship.

3. Data

We use firm-level data from the Financial Information Database for Chinese industrial enterprises provided by the National Bureau of Statistics of China (NBSC). The database covers all industrial firms in China in 2004 with sales of 5 million yuan or more. These firms accounted for about 90% of China's gross industrial product in that year, according to the NBSC.

At the 2-digit industry level, the firms are divided into 37 industries, including 29 manufacturing industries, 5 mining industries, and 3 utilities and recycling industries. With this data, at the firm level we can identify ten different types of workers based on their education levels and their genders. A worker's highest educational completion differentiates workers into middle school (and below), high school, some college, bachelor degree or graduate school groups. We have employment numbers for each skill group, but not separate wage data for each, only total wages and total allowances (i.e., housing allowances and pension benefits) per firm. These wage and salary totals are used along with employment totals to calculate an average annual wage and average annual allowance per worker for each firm. The strength of our data is

the detailed information we have at the firm level to use in explaining the variation in average compensation across firms.

The firms in our dataset are classified by ownership type into four types. The state-controlled grouping, which we called state-owned enterprises (SOE) for convenience, includes entirely state-owned enterprises and state-holding enterprises, where the latter involve mixed ownership but the state represents the largest single share-holder in the enterprise. The other domestic enterprises (ODE) grouping includes enterprises registered as domestically privately-owned as well as collectives. The foreign-direct-invested enterprises (FDIE) group includes industrial enterprises registered as joint-ventures, cooperatives, or sole (exclusive) investment enterprises and limited liability corporations with foreign funds, except those with majority ownership by overseas Chinese funds, which are include in the overseas-Chinese-invested-enterprises (OCIE) grouping.[4] We separate OCIEs from FDIEs since the Chinese government makes this distinction and to allow for possible asymmetric effects based on the foreign investment source. Huang (2004) finds that OCIEs and FDIEs have different technology spillover effects, and Greaney and Li (2012) find evidence suggestive of differing impacts on China's labor market. Potential advantages that OCIEs may have over FDIEs in China include having closer language and cultural linkages, closer geographic proximity, and greater ease in obtaining visas and other government approvals.

Table 1 provides summary statistics for the almost 250,000 firms included in our dataset after cleaning.[5] The average firm is 9 years old, employs 243 people and produced total output of 74.3 million yuan in 2004. Of the total industrial output, 16.6% is exported, but only 27.7%

[4] OCIE capital is sourced from Hong Kong, Macao and Taiwan.

[5] The data is cleaned by excluding firms that report less than 10 employees or less than 1000 yuan in average income per worker, or report values that include apparent errors (i.e., negative values for assets, exports exceeding gross output, employment subgroups that do not add up to totals reported, etc.). We lose about 7% of firms in our chosen industries through data cleaning.

of firms are exporters. Skilled labor (i.e., those with some college or higher education attainment) accounts for 12% of the average firm's workforce, while unskilled labor (i.e., those with only high school completion or less education) makes up 88% of the average firm's workforce. Female workers make up 40% of employment in the average firm. The average annual wage across all surveyed firms is 13.2 thousand yuan. The breakdown of capital by source in the bottom rows of the table do not sum up to 100% because they do not include corporate capital, which is defined as capital from other enterprises[6]. The sources of corporate capital are tallied when firms are classified into firm types (e.g., SOEs, ODEs, OCIEs, and FDIEs), as shown in the last 4 columns in Table 1, but not reported in the dataset.[7] The firm-type breakdown shows some expected tendencies (e.g., the typical SOE is older, larger, less involved in exporting and less productive in terms of output per worker than the other firm types) and some unexpected ones (e.g., SOEs spend as much on worker training per worker as FDIEs, which is twice the level of OCIEs). The standard deviation of many variables is very large with so many industries involved, so our preliminary analysis of this data involves focusing on sub-samples of the data.

4. Methodology

Models of international trade with firm heterogeneity allow firms within an industry to differ by size, productivity, exporter status and multinational status. Following Melitz (2003) and Bernard, Eaton, Jensen and Kortum (2003), this literature has provided explanations for empirical findings that only some firms within an industry export and these exporters tend to be larger and more productive than non-exporters. Helpman, Itskhoki and Redding (2011) extend these heterogeneous firms models by incorporating labor market frictions. Their model predicts

[6] These other enterprises may involve mixtures of state-owned capital, collective capital, foreign capital, and private capital but the data is not broken down by ultimate beneficial owner.

[7] According to officials at the NBSC.

that larger, more productive firms spend more to screen their workers and thereby exclude those with lower abilities. Therefore these larger firms end up with workforces of higher-than-average abilities and they can pay higher wages. Helpman et. al. (2011) are able to generate results that match empirical findings that higher wages are paid by larger firms and by exporters.[8] They propose that a heterogeneous firms model can produce a new pathway for international trade to increase wage inequality. In a model where the most productive firms become exporters, but not all firms export, the exporters pay higher wages to both their skilled and unskilled workers. These wage premiums introduce intra-sectoral wage inequality within each group of workers (i.e., skilled or unskilled), and they might increase or decrease wage inequality between the two groups.

Our data is not ideal for testing the Helpman et. al. (2011) predictions because we do not have explicit measures of skilled wages versus unskilled wages in our dataset, but we do have many of the other relevant variables at the firm level. For our initial inquiry, we examine the various determinants that dictate higher average wages and higher labor productivity for some firms relative to others. Since randomly assigned productivity differentials drive heterogeneous firms' models, but Helpman et. al. (2011) need to add labor market frictions to the basic model to generate intra-sectoral wage inequality, our inquiry examines the determinants of both wage and productivity differentials across firms. We focus on determinants derived from traditional Neoclassical trade models (i.e., capital-labor ratios and skilled labor-unskilled labor ratios), newer determinants derived from the heterogeneous firms' literature (i.e., firm size, exporter status and firm type) and the interactions between these determinants.

[8] See Oi and Idson (1999) for a survey on the employer-size wage premium, and Bernard and Jensen (1995) and (1997) for the exporter wage premium.

Given the large size of our dataset, we have chosen to begin our analysis by controlling for industry and location effects very explicitly. We do this by focusing on one industry and one region at a time in our estimations. We choose the General Equipment and Textiles industries for this initial phase of research, and we limit our attention to the three provinces that include the Yangtze River Delta region—Jiangsu, Shanghai and Zhejiang. The General Equipment and Textiles industries are chosen because these industries have the largest numbers of firms in our dataset, and they both have many observations of all four firm types (i.e., SOE, ODE, OCIE and FDIE).

We choose to focus on the Yangtze River Delta (YRD) Economic Zone because of the concentration of economic activity in this area. From 2004 to 2009, the YRD region accounted for 19% of China's GDP, 22% of its industrial output, 45% of its FDI inflows and about one third of its imports and exports[9]. The YRD area is home to nearly 150 million people (about 10% of China's population) as of 2010. It is the center of Chinese economic development, and surpasses other concentrations of metropolitan regions in China (including the Pearl River Delta) in terms of economic growth, productivity and per capita income. This is an economic region of 110 thousand square kilometers (about 1.2% of China's total area) that comprises the triangular-shaped territory of Shanghai municipality, southern Jiangsu, eastern and northern Zhejiang province. The Wu language bonds this region through a common language, which differs from its neighboring regions. Shanghai is the economic center and the most developed city of the region. The region also includes Nanjing (the capital of Jiangsu province), Hangzhou (the

[9] Authors' calculations are based on the Statistics Yearbook of China (2005-2010), published by National Bureau of Statistics of China (NBSC).

capital of Zhejiang province), and 13 economic growth pole cities[10] (Suzhou, Wuxi, Changzhou, Yangzhou, Zhenjiang, Nantong, Taizhou, Ningbo, Huzhou, Jiaxing, Shaoxing, Zhoushan and Taizhou). Our study covers all firms located in the YRD region and in the areas of Jiangsu and Zhejiang provinces that are not included in the YRD. For simplicity, we use the YRD term to include all parts of the three provinces.

With this focus at the industry and region level, we seek to estimate the determinants of firm-level wages and labor productivities using ordinary least squares (OLS) for the following equation:

(1) $$lnY_i = \alpha + \beta_1 lnX_i + \beta_2 Z_i + \beta_3 Exporter_i + \varepsilon_i;$$

where Y_i represents either average wages or average labor productivity for firm *i* in a single 2-digit industry, X_i represents control variables for firm *i* that are expected to influence its wages or productivity, Z_i represents our ownership variables of interest for firm *i*, and $Exporter_i$ represents an exporter dummy variable to differentiate exporters from non-exporters.[11] The control variables include the capital-labor ratio to control for differing levels of capital-intensity across firms, total employment to control for firm size (i.e., scale economies effects)[12], and the share of higher educated workers in the firm's workforce to control for labor quality differences across firms. The ownership variables for capital supplied by the State, Overseas Chinese, or Foreign Direct Investment are expressed in two different ways—1) as dummy variables identifying the legal ownership classification for the firm; and 2) as shares of the total paid-in-capital for the

[10] Perroux (1950) introduced the idea of economic Growth Poles in 1949. According to Darwent (1969), an economic growth pole is usually an urban location, benefiting from agglomeration economies, and interacts with surrounding areas spreading prosperity from the core to the periphery.

[11] We check for multicollinearity across our independent variables and do not find high correlation coefficients.

[12] We also tried grouping firms into quintile groups by employment size and using size dummies rather than the log of total employment to allow for non-linear relationships between firm size and the dependent variables, but that did qualitatively change our results.

firm. [13] A significant coefficient for any ownership variable indicates a difference for that ownership type relative to the average ODE, which make up the majority of firms in both industries tested. For some of our regressions we also include interaction terms between the control variables and the exporter dummy to check for asymmetries between exporters and other firms. We also consider asymmetric effects of firm types by interacting those terms with our control variables.

5. Results

5.1 Descriptive Statistics

Tables 2 and 3 show summary statistics for the General Equipment and Textiles industries' firms located in the targeted three provinces of Jiangsu, Shanghai and Zhejiang. These three provinces host the majority of the firms and almost half of the total output in our two target industries. The region hosts 9,948 general equipment firms (52% of the national total), which produce 44.0% of the industry's output, and 13,641 textiles firms (61% of the national total) producing 45% of the total textile industry output. The tables show per firm means, standard deviations, minimums and maximums for a variety of indicators for all firms in the industry and region. These indicators also are disaggregated and means reported according to firm types (i.e., SOEs, ODEs, OCIEs and FDIEs) in the columns on the right-side of each table. As would be expected for a transition economy, both industries show much higher firm ages for the typical SOE (30-plus years) than for any other type of firm (5-9 years). The average firm sizes in terms of total employment also favor SOEs, with ODEs having the smallest firm sizes. The differences in employment totals are particularly acute in the textiles industry, with a typical

[13] We also used the log capital contribution from each different source as an alternative measure of firm ownership, but found the results are not qualitatively different from those reported using capital shares.

SOE employing 668 workers, versus 240 in a typical OCIE, 221 in a typical FDIE and 157 in a typical ODE.

The General Equipment firms in the Yangtze River Delta export 14.4% of their output on average, while those in Textiles export 25.0%. Across firm types, FDIEs export the most (34.3% in General Equipment and 53.6% in Textiles), followed by OCIEs (31.1% and 39.3%, respectively) and then by either ODEs or SOEs. Tallying the share of firms in an industry that export presents an even more stark comparison. In General Equipment, 70.4% of FDIEs and 60.7% of OCIEs export versus only 30.3% of SOEs and 22.0% of ODEs. In the Textiles industry, 76.7% of FDIEs and 66.3% of OCIEs export versus only 45.5% of SOEs and 33.3% of ODEs.

Examining the educational backgrounds of the workers in both industries, the majority are from the lowest educational level, with 59.5% of workers in General Equipment and 71.4% of workers in Textiles having only middle school or lower education. The typical firm in the General Equipment industry employs just over 10% skilled workers (defined as those with college attendance or higher attainment) while the typical Textile firm employs less than 5% skilled workers. Women play a larger role in the Textiles industry workforce (67.2% of workers) than in the General Equipment workforce (30.4% of workers).

Total assets per worker represents our measurement of capital-labor ratios across the different industries and different firm types. Total assets per worker at the typical General Equipment firm (217.1 thousand yuan) are slightly higher than in the typical Textile firm (189.3 thousand yuan), but the bigger differences appear in comparing across firm types within each industry. In General Equipment, a typical FDIE has a capital-labor ratio of 456.5 thousand yuan versus only 177.4 thousand yuan for a typical ODE. The difference in the Textiles industry

across ownership types is smaller, with a maximum average capital-labor ratio of 283.2 thousand yuan for SOEs versus a minimum average of 176.2 thousand yuan for ODEs.

Averages for our dependent variables show intriguing differences across firm types. We measure labor productivity using output per worker. The variance in this data is huge for the general equipment industry. By firm types, output per worker is highest for the average FDIE (485.5 thousand yuan), followed by OCIEs (329.5 thousand yuan), and then by ODEs (252.3 thousand yuan) and SOEs (218.5 thousand yuan). Not surprisingly, average annual wages follow the same rankings as labor productivities for the top two firm types with FDIEs on top (25.1 thousand yuan) and OCIEs second (19.9 thousand yuan). However, SOEs are able to pay more generous wages than would seem to be warranted by their lowest ranking in terms of productivity. SOEs pay average wages only slightly behind OCIES at 19.5 thousand yuan compared with ODEs paying only 13.2 thousand yuan. In the textiles industry, the differences in average labor productivities and average wages across firm types are not as wide as in the general equipment industry, and the rankings differ. For output per worker, OCIEs (279.1 thousand yuan) come out on top, followed very closely by ODEs (271.5 thousand yuan) and FDIEs (265.3 thousand yuan). SOEs again have the lowest reported productivities, with an average of 196.0 thousand yuan. An unexpected outcome is that the average wage rankings are almost a complete reversal of the productivities rankings in the textiles industry. SOEs (16.6 thousand yuan) pay the most on average, followed by FDIEs (15.3 thousand yuan), then OCIEs (14.3 thousand yuan) and then ODEs (11.8 thousand yuan).

Besides ownership types, another potential difference across firms is their participation, or lack thereof, in international trade. We divide each industries' firms into exporters versus non-exporters to see whether our data match some of the general predictions of heterogeneous

firms models. Table 4 disaggregates the general equipment (GE) industry with just under 30% of firms classified as exporters. The first two columns of the table allow us to confirm some well-known predictions of heterogeneous firms models: 1) exporter are larger in terms of workforce size (228 versus 97 employees per firm) and total output (76.8 million yuan versus 19.3 million yuan) than non-exporters; 2) exporters employ higher skilled workers (12.4% of workforce with higher education versus 9.7%); 3) exporters are more productive (output per worker of 316.6 thousand yuan versus 266.1 thousand yuan); and 4) exporters pay higher wages (17.3 thousand yuan versus 14.0 thousand yuan).

Table 5 shows the same disaggregation for the Textiles industry into exporters and non-exporters. Using the first two columns for all firms, three of the four heterogeneous firms' model predictions mentioned above are confirmed for the Textiles industry. Exporters are larger, employ slightly more skilled labor (5.1% workforce versus 4.2%), and pay higher wages on average. However, exporters are slightly less productive than non-exporters, with average labor productivity of 265.0 thousand versus 275.8 thousand yuan.

Tables 4 and 5 also can be used to examine the predictions of the heterogeneous firms' model by firm type within each industry. For both industries, exporters are consistently larger than non-exporters in both employment and output dimensions across all firm types. In terms of higher educated labor, breaking the firms down by type shows that only for textiles ODEs and OCIEs do exporters have higher shares of skilled labor than non-exporters as a group. In terms of labor productivity, in the GE industry, only FDIEs match the pattern we see in the aggregate data. FDIEs report higher output per worker for exporters than for non-exporters, but the opposite pattern appears for the other three firm types. In the textiles industry, both FDIEs and

OCIEs have more productive exporters than non-exporters, but SOEs and ODEs show the opposite pattern.

In terms of average wages by exporter status and firm ownership, three out of four firm types in the GE industry and all four firm types in the Textiles industry have higher average wages for exporters than for non-exporters. The one exception is for ODEs in the GE industry, where exporters pay 13.19 thousand yuan while non-exporters pay 13.24 thousand yuan on average. The wage differential is the largest for Textile SOEs, where the typical exporter pays 18.5 thousand yuan versus the typical non-exporter at 15.1 thousand yuan. In fact, in the Textiles industry, SOE exporters pay the highest average wages, followed by FDIE exporters at 15.3 thousand yuan.

The descriptive statistics support many of the heterogeneous firms' model's predictions regarding exporters versus non-exporters at the aggregate industry level, but some contradictions were noted when we disaggregated the industries based on firm ownership. To further pursue the determinants of wages and labor productivities across firms along both the exporter dimension and the ownership dimension, we turn next to regression analysis.

5.2 Examining Intra-Sectoral Wage Inequality by Exporter Status

Here we seek to answer the question: Do exporters pay more and have higher labor productivity than non-exporters after controlling for capital-intensity, size and labor quality differences across firms? These questions are addressed in the first three columns in the left-and-right-side panels in Tables 6 and 7, showing the results for the GE and Textiles industries. The benchmark equations show that our control variables are all highly significant and of the expected signs. Capital-intensity, workforce size and workforce quality are all positively associated with firms' average wages. Capital-intensity and workforce quality are also positively

associated with firms' average productivity, while workforce size is negatively associated with productivity. Adding an exporter dummy to our regressions in the tables (Export Equation 1) produces positive and significant coefficients for the exporter dummy. This suggests that even after controlling for differences in capital-intensity, size and workforce quality, exporters pay more and are more productive than non-exporters.

In Export Equation 2 in the tables we allow for other asymmetries between exporters and non-exporters by interacting each of our control variables with our exporter dummy. For the GE industry, the wage premia from size and higher educated workers are stronger for exporters than for the typical firm and the wage premium from capital-intensity is lower than for the typical firm. The productivity premia from capital-intensity and size are stronger for exporters than for the typical firm, with the latter partially offsetting the negative size effect for the typical firm. The Textile industry wage results in Table 7 show a significant interaction coefficient only for capital-intensity and the coefficient is negative. Combining this result with a significant, positive and larger coefficient on capital-intensity alone implies that the wage premium from capital-intensity is lower for exporters than for the typical firm. This result was also found for the GE industry. For Textile firms' productivity, the pattern of significant interaction coefficients is similar to that reported above for GE firms: exporters have stronger productivity premia from capital-intensity and size. The former reinforces the productivity premium from capital-intensity for the typical firm while the latter partially counters a negative size premium for the average firm.

5.3 Examining Intra-Sectoral Wage Inequality by Exporter Status and Firm Type

Our research question now focuses on the impact of firm ownership: Does firm ownership matter for explaining firm-level differences in average wages and average

productivity, controlling for differences in capital-intensity, size, labor quality and exporter status? These questions are addressed in the last two columns in the left-and-right-side panels in Tables 6 and 7. Firm ownership is measured two ways: as a firm-type dummy variable based on a firm's legal classification and as a continuous variable using the capital shares from each different source.

The results for the GE industry show that all three specified ownership types pay higher wages than ODEs, and the coefficients on FDIEs are highest, followed by SOEs and then OCIEs. The coefficients for the firm type dummies imply that FDIEs pay 31.2% more than ODEs, SOEs pay 23.3% more, and OCIEs pay 17.9% more, after controlling for other differences across the firms.[14] Alternatively, a one percentage point increase in the capital share coming from FDI corresponds with 0.4% increase in wages, versus 0.3% increase for SOEs and 0.2% increase for OCIEs.

The productivity results for the GE industry show that both SOEs and OCIEs are less productive than ODEs across both specifications. SOEs are 37.3% less productive and OCIEs are 6.6% less productive than ODEs, using the firm-type dummy specification. The coefficient on FDIE is significant, at the 10% level, only in the capital share specification, with a positive value that is too small to appear in our table (i.e., less than 0.001). FDIE firms appear to pay a wage premium in the GE industry, but are not more productive than ODE firms after controlling for other determinants. More puzzling, SOEs and OCIEs pay a wage premium, but are less productive than ODEs. These results might fit the description in Zhou (2001) of China's "dual economy" where the state-owned sector is privileged and pays higher wages and benefits than the domestic private, unprivileged sector. Skilled labor migrates to the privileged sector to receive higher earnings, so foreign investors, need to attract skilled labor from the privileged

[14] Percentages are exp[coefficient]-1.

sector by offering even higher wages, but they can attract unskilled workers without needing to pay a premium. ODEs might try to compensate for their "unprivileged" status by squeezing extra productivity out of their workers through unpaid overtime, which is less common in other firm types.[15]

The regression results for the Textiles industry (Table 7) show a wage premium pattern similar to that found for the GE industry—FDIEs pay the highest premium, followed by SOEs and then by OCIEs, but these results are slightly less robust. The SOE coefficient loses significance in the capital share specification, but the FDIE and OCIE coefficients maintain a high degree of significance. The coefficient values are slightly smaller than those found for the GE industry, but are similar in magnitude. FDIEs pay a wage premium of 17.8%, SOEs pay 16.8% more, and OCIEs pay 11.5% more than ODEs, after controlling for differences in capital-intensity, size, workforce education and exporter status.

The productivity results for the Textiles industry show that all three specified firm types are less productive than ODEs, and these results hold across both specifications. The productivity penalty is quite high for SOEs at 42.0%, followed by FDIEs at 11.6% and then by OCIEs at 10.4%. Again, we are left needing to explain why less productive firms appear to pay higher wages. We suspect that our measure of labor productivity, output per worker, ignores large differences in working hours across firm types. Workers in ODEs often work 10- or 12-hour days, 6 days per week, with very limited paid holidays, while workers in the other firm types tend to work 8-hour days, 5 days per week with generous paid holidays. This discrepancy helps to explain the higher observed outputs per worker in ODEs.

5.4 Examining Intra-Sectoral Wage Inequality by Exporter Status, Firm Type and Firm Type Interactions with Control Variables

[15] We are checking for references on this hypothesis suggested by management colleagues.

Since our analysis above indicates some systematic differences between exporters and non-exporters, we now separate each industry along this dimension and examine the influences on intra-sectoral wage inequality and productivity gaps. We interact our firm type variables with our control variables to allow for asymmetric effects across firm types. Tables 8 and 9 show a large number of significant asymmetric effects for the GE and Textiles industries.

Table 8 shows that capital-intensity has a stronger impact on average wages among OCIEs and FDIEs that export than on the typical exporter. Among non-exporters, capital-intensity has a stronger impact on wages among SOEs and FDIEs. The firm size wage premium effect is smaller among OCIEs and FDIEs that export than for the typical exporter. For non-exporters, the firm size wage premium is smaller for OCIEs, but it is larger for SOEs in the firm-type dummy specification. In terms of interactions with the share of higher educated workers, FDIE exporters' average wage is more positively impacted by higher educated workers than the average exporter, and for non-exporters, both OCIEs and FDIEs have a significant positive coefficient.

In comparing GE exporters versus non-exporters in terms of productivity determinants in Table 8, we find that all three specified firm types had productivity premia from capital intensity beyond that of the typical exporter, but only SOEs and FDIEs had them for non-exporters. The firm type interaction terms with firm size shows positive and significant coefficients for OCIEs and FDIEs for exporters, and SOEs and FDIEs for non-exporters. These partially offset the negative effect of size on productivity found for the typical exporter or non-exporter. For interactions with the share of higher educated workers, none of the coefficients are significant for exporters and only FDIEs show a significant (positive) coefficient for non-exporters. This implies that firm ownership does not matter in determining the relationship between productivity

and the share of higher educated workers in a firm's workforce for exporters, or for non-exporters, with the exception of FDIE non-exporters.

Table 9 reports fewer significant coefficients for the interaction coefficients used to explain wage and productivity differentials for the Textiles industry than were just reviewed for the GE industry. Overall, Tables 8 and 9 support the conjecture that firm-type matters not just as an added determinant of wages and productivity but also through interactions with other determinants.

6. Conclusions

Our preliminary results focusing on two major industries located in the Yangtze River Delta provide support for a heterogeneous firms' model approach to examining the determinants of wage and productivity gaps across firms. Exporters are larger, more productive, and they employ higher skilled workers and pay higher wages. We find that even after controlling for differences in capital-intensity, firm size and workforce quality, exporters pay more and display higher productivity than non-exporters. Since the majority of FDIE and OCIE firms in these industries are exporters while the majority of domestic firms, both SOEs and ODEs, are non-exporters, we seek to disentangle the exporter effect from the firm-ownership effect in determining firm wages and productivity.

After controlling for capital-intensity, size, workforce quality and exporter status, FDIEs seem to pay the highest wages, followed by OCIEs, SOEs and then ODEs. The wage premiums over ODEs varied from 18% (OCIEs) to 31% (FDIEs) in the General Equipment industry, and from 12% (OCIEs) to 18% (FDIEs) in the Textiles industry. These wage premiums do not seem to be justified by higher labor productivity, however. We find that SOEs and OCIEs appear to be less productive than ODEs in both industries, and FDIEs appear less productive than ODEs in

the Textiles industry. We believe that our measure of labor productivity, output per worker, misses large differences in working hours across firm types which can help to explain high labor productivity observed at ODEs relative to the other firm types.

In continuing work, we are examining the interactions between the various determinants to understand some of the asymmetries across firm types and between exporters and non-exporters. We also are adding geographic location as a possible determinant of wage and productivity differentials between firms. Even within our three-province region, there are differences between Shanghai and other provincial capitals, and between urban areas versus rural areas that we would like to observe. We also seek to expand our examination of income inequality beyond the intra-sectoral level, to include inequality across provinces and across industries in future research.

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Table 1 All Industries, Firms and Regions in China, 2004

	All firm types				SOEs	ODEs	OCIEs	FDIEs
Per Firm Variables	Mean	Std. Dev.	Min	Max	Mean	Mean	Mean	Mean
Firm Age (years)	9.02	10.38	0.08	404	26.22	8.12	7.23	6.38
Number Employed (#)	243.61	1107.24	10.00	120,151	470.68	206.41	311.18	299.95
Total Output	74,336	748,665	44	128,000,000	198,052	57,139	73,189	120,375
Total Assets	73,500	673,596	23	109,000,000	124,692	57,200	84,367	146,882
Export Share of Output	16.61	33.27	0.00	100	2.17	10.33	44.22	43.36
Share of Firms that Export	27.69	na	na	na	7.98	18.72	64.78	67.65
Post Graduate Share	0.33	1.91	0.00	100	0.29	0.28	0.30	0.70
Bachelor Degree Share	3.50	7.64	0.00	100	4.39	2.94	3.65	6.75
College Share	8.23	10.46	0.00	100	13.12	7.39	8.56	10.87
High School Share	32.57	22.45	0.00	100	41.66	31.36	33.28	34.84
Middle School Share	55.37	28.87	0.00	100	40.54	58.03	54.22	46.85
Female Employee Share	39.93	24.25	0.00	100	33.60	38.17	48.79	47.78
Female Post Graduate Share	0.05	0.55	0.00	70	0.05	0.04	0.05	0.14
Female Bachelor Degree Share	0.89	2.60	0.00	73	1.14	0.69	1.05	2.04
Female College Share	2.81	4.58	0.00	92	4.62	2.36	3.36	4.29
Female High School Share	12.06	12.95	0.00	100	14.99	11.04	14.47	15.09
Female Middle School Share	24.12	23.01	0.00	100	12.80	24.04	29.86	26.22
Trainning Cost Per Worker	0.12	0.62	0.00	93	0.15	0.11	0.07	0.15
Output Per Worker	329.17	941.80	0.69	181,744	186.57	317.58	334.01	496.58
Total Assets Per Worker	271.14	1292.53	0.15	300,053	332.32	230.80	312.68	479.56
Avg. Annual Wage Per Worker	13.18	13.46	1.00	978	13.62	11.89	15.49	19.82
Avg. Annual Allowance Per Worker	2.99	12.94	0.00	4,621	6.01	2.48	2.76	4.91
SOE Capital Share	7.78	25.72	0.00	100	86.38	2.49	1.67	2.07
Other Domestic Capital Share	46.78	47.77	0.00	100	1.49	62.06	5.93	6.40
OC Capital Share	7.70	25.07	0.00	100	0.05	0.18	72.39	2.65
FDI Capital Share	7.62	24.59	0.00	100	0.04	0.12	2.65	70.67
Observations	249,500	249,500	249,500	249,500	16,084	182,657	25,130	25,629

Notes: All currency denominated values in thousands of yuan; all employment shares are shares of total employment

Table 2 General Equipment--All Firms, Yangtze River Delta

	All firm types				SOEs	ODEs	OCIEs	FDIEs
Per Firm Variables	Mean	Std. Dev.	Min	Max	Mean	Mean	Mean	Mean
Firm Age (years)	8.85	9.50	0.08	146	33.58	8.94	6.23	5.91
Number Employed (#)	135.60	294.87	10	16,730	281.15	122.43	159.16	201.05
Total Output	36,345	226,702	234	11,600,000	80,219	25,380	49,016	107,182
Total Assets	39,890	206,946	309	13,200,000	56,673	30,555	49,592	104,080
Export Share of Output	14.35	29.79	0.00	100	5.18	10.65	31.07	34.28
Share of Firms that Export	29.64	na	na	na	30.25	21.95	60.65	70.36
Post Graduate Share	0.24	1.39	0.00	53	0.29	0.15	0.27	0.87
Bachelor Degree Share	3.24	7.04	0.00	100	5.63	2.27	4.69	9.60
College Share	7.04	8.65	0.00	100	12.68	5.93	10.56	12.66
High School Share	29.96	20.66	0.00	100	37.73	28.44	35.36	37.26
Middle School Share	59.52	26.64	0.00	100	43.66	63.22	49.11	39.61
Female Employee Share	30.40	17.40	0.00	100	24.90	30.27	32.14	31.19
Female Post Graduate Share	0.03	0.32	0.00	11	0.02	0.01	0.03	0.15
Female Bachelor Degree Share	0.66	2.03	0.00	39	0.85	0.39	1.16	2.40
Female College Share	2.09	3.50	0.00	65	3.34	1.63	3.90	4.33
Female High School Share	8.49	8.80	0.00	93	10.92	7.97	10.25	11.11
Female Middle School Share	19.14	16.37	0.00	99	9.77	20.27	16.81	13.21
Trainning Cost Per Worker	0.15	1.01	0.00	93	0.17	0.13	0.10	0.33
Output Per Worker	281.07	360.44	11.94	14,885	218.51	252.27	329.46	485.50
Total Assets Per Worker	217.10	336.78	2.93	11,056	302.00	177.43	308.91	456.46
Avg. Annual Wage Per Worker	15.01	13.92	1.21	775	19.51	13.23	19.93	25.14
Avg. Annual Allowance Per Worker	3.48	5.34	0.00	205	10.14	2.81	4.34	7.08
SOE Capital Share	1.81	12.29	0.00	100	58.19	0.79	1.12	1.36
Other Domestic Capital Share	62.06	46.39	0.00	100	1.42	74.47	8.85	7.69
OC Capital Share	4.73	19.78	0.00	100	0.00	0.05	71.31	0.78
FDI Capital Share	7.73	24.59	0.00	100	0.01	0.09	0.99	72.69
Observations	9,948	9,948	9,948	9,948	162	8104	643	1,039

Notes: All currency denominated values in thousands of yuan; all employment shares are shares of total employment

Table 3 Textiles--All Firms, Yangtze River Delta

	All firm types				SOEs	ODEs	OCIEs	FDIEs
Per Firm Variables	Mean	Std. Dev.	Min	Max	Mean	Mean	Mean	Mean
Firm Age (years)	6.48	7.32	0.08	139	35.83	6.49	5.98	5.44
Number Employed (#)	173.47	382.98	10.00	28,586	667.50	156.51	239.82	220.50
Total Output	32,407	114,626	265	7,099,900	175,889	27,475	52,535	45,110
Total Assets	38,323	118,054	936	9,218,360	108,286	34,835	54,675	46,528
Export Share of Output	24.98	37.52	0.00	100	23.13	19.91	39.32	53.55
Share of Firms that Export	40.69	na	na	na	45.45	33.27	66.32	76.68
Post Graduate Share	0.05	0.51	0.00	40	0.17	0.03	0.06	0.15
Bachelor Degree Share	0.97	3.02	0.00	80	1.73	0.76	1.61	2.04
College Share	3.53	5.95	0.00	100	6.69	3.10	5.21	5.26
High School Share	24.09	19.87	0.00	100	35.27	23.55	25.29	26.97
Middle School Share	71.36	22.81	0.00	100	56.14	72.56	67.83	65.58
Female Employee Share	67.16	18.83	0.00	100	54.47	67.35	65.14	68.51
Female Post Graduate Share	0.01	0.16	0.00	7	0.04	0.01	0.01	0.04
Female Bachelor Degree Share	0.34	1.62	0.00	56	0.52	0.25	0.61	0.83
Female College Share	1.54	3.44	0.00	80	2.65	1.27	2.51	2.75
Female High School Share	13.71	15.00	0.00	94	18.46	13.28	14.59	16.27
Female Middle School Share	51.56	23.00	0.00	100	32.79	52.54	47.42	48.63
Trainning Cost Per Worker	0.09	0.86	0.00	88	0.14	0.09	0.07	0.15
Output Per Worker	271.39	320.21	7.82	8,704	196.01	271.52	279.05	265.28
Total Assets Per Worker	189.32	286.20	1.56	13,486	283.21	176.20	244.94	236.22
Avg. Annual Wage Per Worker	12.37	9.12	1.00	417	16.62	11.77	14.28	15.30
Avg. Annual Allowance Per Worker	2.57	39.67	0.00	4,621	8.89	2.49	2.48	3.11
SOE Capital Share	0.65	7.19	0.00	100	55.31	0.32	0.95	0.27
Other Domestic Capital Share	66.37	44.91	0.00	100	2.61	79.83	12.90	12.34
OC Capital Share	6.34	21.31	0.00	100	0.76	0.07	59.25	0.56
FDI Capital Share	6.10	21.52	0.00	100	0.48	0.05	1.22	66.15
Observations	13,641	13,641	13,641	13,641	66	10,919	1,434	1,222

Notes: All currency denominated values in thousands of yuan; all employment shares are shares of total employment

Table 4 General Equipment--Means for Exporters vs. Non-exporters, Yangtze River Delta

	All firm types		SOEs		ODEs		OCIEs		FDIEs	
Per Firm Variables	Exporters	Non-Exp	Exporters	Non-Exp	Exporters	Non-Exp	Exporters	Non-Exp	Exporters	Non-Exp
Firm Age (years)	8.85	8.85	47.08	27.73	9.50	8.79	6.26	6.18	6.10	5.47
Number Employed (#)	228.34	96.52	446.24	209.57	225.22	93.52	199.52	96.95	236.71	116.44
Total Output	76,831	19,286	156,449	47,163	53,700	17,415	65,129	24,177	134,028	43,466
Total Assets	80,671	22,707	103,209	36,494	63,211	21,370	65,650	24,838	129,665	43,359
Export Share	48	0.00	17.13	0.00	48.52	0.00	51.22	0.00	48.72	0.00
Post Graduate Share	0.34	0.19	0.12	0.37	0.15	0.15	0.29	0.24	0.84	0.95
Bachelor Degree Share	4.25	2.82	3.54	6.53	2.37	2.24	4.46	5.06	8.78	11.56
College Share	7.79	6.72	9.76	13.95	5.73	5.98	9.41	12.34	11.83	14.62
High School Share	31.12	29.47	40.95	36.34	27.10	28.81	34.51	36.66	38.46	34.42
Middle School Share	56.49	60.80	45.63	42.81	64.65	62.82	51.33	45.70	40.10	38.45
Female Employee Share	35.70	28.17	24.90	24.90	37.26	28.31	35.07	27.63	32.98	26.95
Female Post Graduate Share	0.05	0.02	0.00	0.02	0.01	0.01	0.02	0.03	0.15	0.17
Female Bachelor Degree Share	1.05	0.50	0.57	0.97	0.50	0.36	1.20	1.09	2.33	2.56
Female College Share	2.68	1.84	2.67	3.63	1.82	1.58	3.62	4.34	4.27	4.48
Female High School Share	10.21	7.76	11.51	10.67	9.28	7.60	10.89	9.26	12.03	8.91
Female Middle School Share	21.72	18.06	10.15	9.61	25.65	18.76	19.34	12.92	14.20	10.84
Trainning Cost Per Worker	0.17	0.14	0.24	0.14	0.15	0.12	0.11	0.09	0.23	0.55
Output Per Worker	316.59	266.10	213.13	220.84	244.08	254.58	328.41	331.07	493.70	466.04
Total Assets Per Worker	267.94	195.68	279.89	311.59	175.33	178.02	309.05	308.70	470.59	422.93
Avg. Annual Wage Per Worker	17.33	14.03	20.58	19.05	13.19	13.24	19.94	19.90	25.81	23.56
Avg. Annual Allowance Per Worker	4.49	3.05	13.21	8.81	3.02	2.75	4.58	3.97	7.42	6.27
SOE Capital Share	1.46	1.96	33.75	68.79	0.80	0.79	0.92	1.42	1.19	1.76
Other Domestic Capital Share	49.39	67.40	0.54	1.81	76.82	73.81	8.80	8.92	7.54	8.04
OC Capital Share	9.83	2.58	0.01	0.00	0.07	0.04	72.85	68.93	0.62	1.17
FDI Capital Share	18.75	3.09	0.03	0.00	0.25	0.05	0.53	1.70	74.76	67.78
Observations	2949	6,999	49	113	1779	6325	390	253	731	308

Notes: All currency denominated values in thousands of yuan; all employment shares are shares of total employment

Table 5 Textiles--Means for Exporters vs. Non-exporters, Yangtze River Delta

	All firm types		SOEs		ODEs		OCIEs		FDIEs	
Per Firm Variables	Exporters	Non-Exp	Exporters	Non-Exp	Exporters	Non-Exp	Exporters	Non-Exp	Exporters	Non-Exp
Firm Age (years)	7.24	5.96	41.40	31.18	7.71	5.88	5.94	6.07	5.65	4.73
Number Employed (#)	253.28	118.71	943.07	437.86	245.10	112.34	271.08	178.27	244.86	140.42
Total Output	50,606	19,920	280,269	88,905	46,403	18,036	60,159	37,523	49,854	29,515
Total Assets	58,492	24,484	180,904	47,771	57,609	23,479	64,332	35,660	52,070	28,308
Export Share of Output	61.39	0.00	50.89	0.00	59.84	0.00	59.29	0.00	69.84	0.00
Post Graduate Share	0.06	0.04	0.27	0.08	0.03	0.04	0.07	0.03	0.14	0.19
Bachelor Degree Share	1.19	0.81	1.51	1.91	0.86	0.70	1.68	1.48	1.98	2.25
College Share	3.83	3.33	5.24	7.90	3.13	3.09	5.18	5.27	5.16	5.57
High School Share	24.36	23.91	32.51	37.58	23.53	23.55	24.73	26.41	26.91	27.18
Middle School Share	70.56	71.91	60.47	52.53	72.45	72.62	68.35	66.81	65.82	64.80
Female Employee Share	69.68	65.43	55.45	53.65	70.17	65.95	67.67	60.17	70.29	62.65
Female Post Graduate Share	0.02	0.01	0.00	0.07	0.01	0.01	0.02	0.00	0.04	0.03
Female Bachelor Degree Share	0.44	0.27	0.50	0.54	0.29	0.23	0.67	0.48	0.81	0.89
Female College Share	1.87	1.31	2.08	3.13	1.45	1.18	2.63	2.29	2.72	2.82
Female High School Share	14.67	13.05	17.39	19.35	14.16	12.84	14.69	14.39	16.54	15.37
Female Middle School Share	52.68	50.79	35.48	30.54	54.25	51.69	49.67	43.00	50.18	43.53
Trainning Cost Per Worker	0.11	0.08	0.15	0.13	0.11	0.08	0.06	0.07	0.17	0.07
Output Per Worker	265.00	275.78	185.12	205.08	258.76	277.89	290.56	256.38	265.79	263.60
Total Assets Per Worker	191.36	187.92	302.59	267.06	165.80	181.39	242.76	249.21	234.72	241.16
Avg. Annual Wage Per Worker	13.15	11.83	18.46	15.08	12.24	11.53	14.33	14.19	15.32	15.20
Avg. Annual Allowance Per Worker	3.44	1.98	10.47	7.57	3.67	1.90	2.63	2.19	3.15	2.97
SOE Capital Share	0.76	0.57	48.71	60.81	0.50	0.23	0.73	1.38	0.28	0.22
Other Domestic Capital Share	56.15	73.38	0.00	4.78	78.89	80.29	13.66	11.40	12.89	10.51
OC Capital Share	10.28	3.63	1.68	0.00	0.15	0.03	58.86	60.02	0.53	0.65
FDI Capital Share	11.69	2.26	1.05	0.00	0.09	0.03	1.47	0.71	67.39	62.08
Observations	5,551	8,090	30	36	3,633	7,286	951	483	937	285

Notes: All currency denominated values in thousands of yuan; all employment shares are shares of total employment

Table 6: Regression Results 1 for General Equipment, Yangtze River Delta

Dependent Variable:	ln(Average Annual Wage Per Worker)					ln(Average Annual Output Per Worker)				
	Benchmark	Export Eq1	Export Eq2	Firm type	K share	Benchmark	Export Eq1	Export Eq2	Firm type	K share
ln(Total K/L)	0.198 ***	0.193 ***	0.167 ***	0.155 ***	0.155 ***	0.511 ***	0.506 ***	0.474 ***	0.477 ***	0.477 ***
	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)
ln(TotalL)	0.060 ***	0.049 ***	0.057 ***	0.050 ***	0.051 ***	-0.149 ***	-0.162 ***	-0.223 ***	-0.216 ***	-0.218 ***
	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.008)	(0.008)	(0.008)
Share Higher Educ.	0.007 ***	0.006 ***	0.005 ***	0.004 ***	0.003 ***	0.004 ***	0.004 ***	0.003 ***	0.004 ***	0.004 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Exporter		0.073 ***	-0.234 ***	-0.168 **	-0.166 **		0.082 ***	-0.954 ***	-0.970 ***	-0.969 ***
		(0.010)	(0.074)	(0.072)	(0.072)		(0.012)	(0.094)	(0.093)	(0.094)
Exporter*TotalK/L			-0.026 ***	-0.022 **	-0.016 *			0.148 ***	0.148 ***	0.145 ***
			(0.010)	(0.010)	(0.010)			(0.012)	(0.012)	(0.012)
Exporter*TotalL			0.075 ***	0.048 ***	0.043 ***			0.069 ***	0.075 ***	0.076 ***
			(0.012)	(0.012)	(0.012)			(0.016)	(0.016)	(0.016)
Exporter*HigherEd			0.004 ***	0.004 ***	0.003 ***			0.001	0.001	0.001
			(0.001)	(0.001)	(0.001)			(0.001)	(0.001)	(0.001)
SOE				0.210 ***	0.003 ***				-0.466 ***	-0.004 ***
				(0.032)	(0.000)				(0.042)	(0.000)
OCIE				0.164 ***	0.002 ***				-0.068 ***	-0.001 ***
				(0.017)	(0.000)				(0.022)	(0.000)
FDIE				0.271 ***	0.004 ***				-0.023	0.000 *
				(0.015)	(0.000)				(0.020)	(0.000)
Constant	1.251 ***	1.302 ***	1.413 ***	1.492 ***	1.485 ***	3.413 ***	3.470 ***	3.890 ***	3.853 ***	3.857 ***
	(0.034)	(0.034)	(0.044)	(0.043)	(0.043)	(0.043)	(0.044)	(0.056)	(0.055)	(0.055)
Observations	9948	9948	9948	9948	9948	9948	9948	9948	9948	9948
Adjusted R-square	0.229	0.234	0.245	0.272	0.277	0.449	0.451	0.460	0.467	0.465

Notes: ***=significant at the 1% level; **=significant at the 5% level; *=significant at the 10% level; numbers in parentheses are standard errors.

Table 7: Regression Results 1 for Textiles, Yangtze River Delta

Dependent Variable:	ln(Average Annual Wage Per Worker)					ln(Average Annual Output Per Worker)				
	Benchmark	Export Eq1	Export Eq2	Firm type	K share	Benchmark	Export Eq1	Export Eq2	Firm type	K share
ln(Total K/L)	0.108 ***	0.109 ***	0.115 ***	0.110 ***	0.111 ***	0.496 ***	0.497 ***	0.450 ***	0.456 ***	0.454 ***
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)
ln(TotalL)	0.020 ***	0.003	0.002	-0.006	-0.003	-0.216 ***	-0.236 ***	-0.306 ***	-0.296 ***	-0.300 ***
	(0.003)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)
Share Higher Educ.	0.006 ***	0.006 ***	0.005 ***	0.005 ***	0.005 ***	0.005 ***	0.004 ***	0.005 ***	0.005 ***	0.005 ***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Exporter		0.109 ***	0.159 ***	0.134 ***	0.139 ***		0.127 ***	-0.918 ***	-0.898 ***	-0.914 ***
		(0.007)	(0.052)	(0.051)	(0.051)		(0.010)	(0.074)	(0.074)	(0.074)
Exporter*TotalK/L			-0.015 ***	-0.015 *	-0.015 *			0.085 ***	0.084 ***	0.085 ***
			(0.008)	(0.008)	(0.008)			(0.011)	(0.011)	(0.011)
Exporter*TotalL			0.003	0.003	0.003			0.140 ***	0.140 ***	0.142 ***
			(0.007)	(0.007)	(0.007)			(0.010)	(0.010)	(0.010)
Exporter*HigherEd			0.001	0.000	0.000			-0.002	-0.001	-0.001
			(0.001)	(0.001)	(0.001)			(0.001)	(0.001)	(0.001)
SOE				0.155 ***	0.001				-0.545 ***	-0.004 ***
				(0.049)	(0.000)				(0.070)	(0.001)
OCIE				0.109 ***	0.002 ***				-0.110 ***	-0.001 ***
				(0.011)	(0.000)				(0.016)	(0.000)
FDIE				0.163 ***	0.002 ***				-0.124 ***	-0.002 ***
				(0.012)	(0.000)				(0.018)	(0.000)
Constant	1.779 ***	1.807 ***	1.782 ***	1.832 ***	1.816 ***	3.859 ***	3.892 ***	4.423 ***	4.360 ***	4.384 ***
	(0.026)	(0.025)	(0.037)	(0.036)	(0.036)	(0.037)	(0.037)	(0.052)	(0.052)	(0.052)
Observations	13641	13641	13641	13641	13641	13641	13641	13641	13641	13641
Adjusted R-square	0.087	0.102	0.102	0.117	0.117	0.475	0.481	0.489	0.494	0.492

Notes: ***=significant at the 1% level; **=significant at the 5% level; *=significant at the 10% level; numbers in parentheses are standard errors.

Table 8: Regression Results 2 for General Equipment, Yangtze River Delta

Export Status:	Exporter				Non-Exporter			
Dependent Variable:	ln(Avg. Ann. Wage/L)		ln(Avg.Ann. Output/L)		ln(Avg. Ann. Wage/L)		ln(Avg.Ann. Output/L)	
	Firm type	K share	Firm type	K share	Firm type	K share	Firm type	K share
ln(Total K/L)	0.133 ***	0.159 ***	0.508 ***	0.504 ***	0.146 ***	0.146 ***	0.463 ***	0.462 ***
	(0.014)	(0.013)	(0.018)	(0.017)	(0.007)	(0.007)	(0.009)	(0.009)
ln(TotalL)	0.055 ***	0.064 ***	-0.108 ***	-0.108 ***	0.055 ***	0.056 ***	-0.229 ***	-0.227 ***
	(0.009)	(0.009)	(0.013)	(0.012)	(0.007)	(0.006)	(0.008)	(0.008)
Share Higher Educ.	0.002 *	0.002 **	0.003 **	0.003 **	0.002 ***	0.002 ***	0.003 ***	0.003 ***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
SOE	0.695	0.000	-1.486 **	-0.026 ***	-0.753 ***	-0.005 *	-2.503 ***	-0.022 ***
	(0.479)	(0.005)	(0.647)	(0.006)	(0.260)	(0.003)	(0.334)	(0.003)
OCIE	-0.600 ***	-0.004 *	-1.050 ***	-0.014 ***	0.651 **	0.008 **	-0.128	-0.002
	(0.180)	(0.002)	(0.243)	(0.003)	(0.272)	(0.004)	(0.349)	(0.005)
FDIE	-0.527 ***	-0.004 **	-1.374 ***	-0.018 ***	-0.639 ***	-0.008 ***	-1.192 ***	-0.018 ***
	(0.139)	(0.002)	(0.188)	(0.002)	(0.212)	(0.003)	(0.272)	(0.004)
SOE*TotalK/L	0.027	0.001	0.285 **	0.005 ***	0.129 ***	0.001 **	0.257 ***	0.002 ***
	(0.101)	(0.001)	(0.137)	(0.001)	(0.043)	(0.000)	(0.056)	(0.001)
OCIE*TotalK/L	0.197 ***	0.002 ***	0.104 ***	0.002 ***	-0.002	0.000	-0.022	0.000
	(0.029)	(0.000)	(0.039)	(0.000)	(0.037)	(0.000)	(0.047)	(0.001)
FDIE*TotalK/L	0.161 ***	0.001 ***	0.122 ***	0.002 ***	0.152 ***	0.002 ***	0.125 ***	0.002 ***
	(0.023)	(0.000)	(0.031)	(0.000)	(0.030)	(0.000)	(0.038)	(0.001)
SOE*TotalL	-0.104	-0.001 *	-0.065	0.000	0.058 *	0.000	0.151 ***	0.002 ***
	(0.071)	(0.001)	(0.096)	(0.001)	(0.033)	(0.000)	(0.043)	(0.000)
OCIE*TotalL	-0.048 **	-0.001 ***	0.085 ***	0.001 **	-0.112 ***	-0.001 ***	0.046	0.000
	(0.023)	(0.000)	(0.031)	(0.000)	(0.034)	(0.000)	(0.044)	(0.001)
FDIE*TotalL	-0.036 **	-0.001 ***	0.129 ***	0.002 ***	-0.012	0.000	0.106 ***	0.001 *
	(0.017)	(0.000)	(0.023)	(0.000)	(0.028)	(0.000)	(0.035)	(0.000)
SOE*Higher Educ.	0.006	0.000	-0.005	0.000	0.001	0.000	0.001	0.000
	(0.010)	(0.000)	(0.013)	(0.000)	(0.002)	(0.000)	(0.003)	(0.000)
OCIE*Higher Educ.	-0.001	0.000	0.003	0.000	0.003 **	0.000	0.001	0.000
	(0.002)	(0.000)	(0.002)	(0.000)	(0.002)	(0.000)	(0.002)	(0.000)
FDIE*Higher Educ.	0.008 ***	0.000 ***	0.003	0.000	0.005 ***	0.000 ***	0.004 **	0.000
	(0.001)	(0.000)	(0.002)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)
Constant	1.578 ***	1.422 ***	3.304 ***	3.319 ***	1.530 ***	1.520 ***	3.980 ***	3.978 ***
	(0.074)	(0.071)	(0.099)	(0.095)	(0.046)	(0.046)	(0.059)	(0.059)
Observations	2949	2949	2949	2949	6999	6999	6999	6999
Adjusted R-square	0.444	0.436	0.515	0.515	0.181	0.186	0.451	0.449

Notes: ***=significant at the 1% level; **=significant at the 5% level; *=significant at the 10% level; numbers in parentheses are standard errors.

Table 9: Regressions Results 2 for Textiles, Yangtze River Delta

Export Status:	Exporter				Non-Exporter			
Dependent Variable:	ln(Avg. Ann. Wage/L)		ln(Avg.Ann. Output/L)		ln(Avg. Ann. Wage/L)		ln(Avg.Ann. Output/L)	
	Firm type	K share	Firm type	K share	Firm type	K share	Firm type	K share
ln(Total K/L)	0.084 ***	0.087 ***	0.551 ***	0.552 ***	0.111 ***	0.112 ***	0.459 ***	0.458 ***
	(0.007)	(0.007)	(0.010)	(0.010)	(0.005)	(0.005)	(0.008)	(0.008)
ln(TotalL)	-0.002	0.004	-0.167 ***	-0.162 ***	-0.006	-0.004	-0.307 ***	-0.308 ***
	(0.006)	(0.006)	(0.009)	(0.009)	(0.005)	(0.005)	(0.008)	(0.008)
Share Higher Educ.	0.004 ***	0.004 ***	0.005 ***	0.005 ***	0.003 ***	0.003 ***	0.005 ***	0.005 ***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
SOE	-0.597	-0.004	-2.761 ***	-0.021 **	-0.131	-0.007	0.251	0.007
	(0.622)	(0.006)	(0.896)	(0.009)	(0.527)	(0.005)	(0.755)	(0.007)
OCIE	-0.037	0.001	-0.308 *	0.000	0.435 ***	0.005 **	-0.681 ***	-0.005
	(0.110)	(0.002)	(0.158)	(0.002)	(0.166)	(0.002)	(0.238)	(0.003)
FDIE	-0.056	-0.001	0.076	0.002	-0.094	-0.002	-0.399	-0.009 **
	(0.109)	(0.001)	(0.156)	(0.002)	(0.216)	(0.003)	(0.309)	(0.005)
SOE*TotalK/L	0.271 ***	0.002 ***	0.113	0.002 **	0.036	0.001 **	-0.119	-0.003 ***
	(0.070)	(0.001)	(0.101)	(0.001)	(0.078)	(0.001)	(0.112)	(0.001)
OCIE*TotalK/L	0.027 **	0.000	-0.001	0.000	-0.035	0.000	-0.013	0.000
	(0.015)	(0.000)	(0.022)	(0.000)	(0.022)	(0.000)	(0.031)	(0.000)
FDIE*TotalK/L	0.030 **	0.001 ***	-0.055 **	-0.001 ***	-0.003	0.000	-0.055	0.000
	(0.015)	(0.000)	(0.022)	(0.000)	(0.030)	(0.000)	(0.043)	(0.001)
SOE*TotalL	-0.121 *	-0.001 **	0.250 **	0.001	0.010	0.000	0.038	0.001
	(0.071)	(0.001)	(0.102)	(0.001)	(0.053)	(0.001)	(0.076)	(0.001)
OCIE*TotalL	0.002	0.000	0.040 *	0.000	-0.032	0.000	0.126 ***	0.001 ***
	(0.015)	(0.000)	(0.022)	(0.000)	(0.022)	(0.000)	(0.031)	(0.000)
FDIE*TotalL	0.009	0.000	0.016	0.000	0.043	0.001 **	0.109 *	0.002 ***
	(0.015)	(0.000)	(0.022)	(0.000)	(0.029)	(0.000)	(0.041)	(0.001)
SOE*Higher Educ.	0.017 ***	0.000 ***	0.000	0.000	0.004	0.000 *	-0.033 ***	0.000 **
	(0.006)	(0.000)	(0.009)	(0.000)	(0.005)	(0.000)	(0.007)	(0.000)
OCIE*Higher Educ.	-0.002	0.000	-0.001	0.000	0.006 ***	0.000 ***	0.007 **	0.000 **
	(0.002)	(0.000)	(0.003)	(0.000)	(0.002)	(0.000)	(0.003)	(0.000)
FDIE*Higher Educ.	0.004 **	0.000	0.000	0.000	0.008 ***	0.000 **	0.004	0.000
	(0.002)	(0.000)	(0.003)	(0.000)	(0.002)	(0.000)	(0.003)	(0.000)
Constant	2.018 ***	1.985 ***	3.463 ***	3.427 ***	1.829 ***	1.821 ***	4.394 ***	4.399 ***
	(0.043)	(0.042)	(0.063)	(0.061)	(0.039)	(0.038)	(0.056)	(0.055)
Observations	5551	5551	5551	5551	8090	8090	8090	8090
Adjusted R-square	0.122	0.124	0.503	0.501	0.096	0.096	0.489	0.487

Notes: ***=significant at the 1% level; **=significant at the 5% level; *=significant at the 10% level; numbers in parentheses are standard errors.